

Oracle CRM 11i "Hornet" Release: JTF Page Prefabrication

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CRM Technology and Architecture

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CRM Technology & Architecture: Page Prefabrication 1

What is JTF Prefab Solving?

- 20 Milli Sec Page Retrievals vs. Few Secs
- OSO Pages for Sales, Marketing personnel
 - Page Content is Dynamic based on the user, Caching will NOT Solve it
 - Prefabricate it (my.yahoo.com)!

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JTF Prefab Applications (*OSO*) Should Provide

- List of JSP pages in application (70 pages)
- List of read-only JSP pages (30 pages)
- APP ID, RESP ID for the application
- No Changes To Application Software & Database Schema (*non-intrusive*)

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JTF Prefab OSO Prefabrication

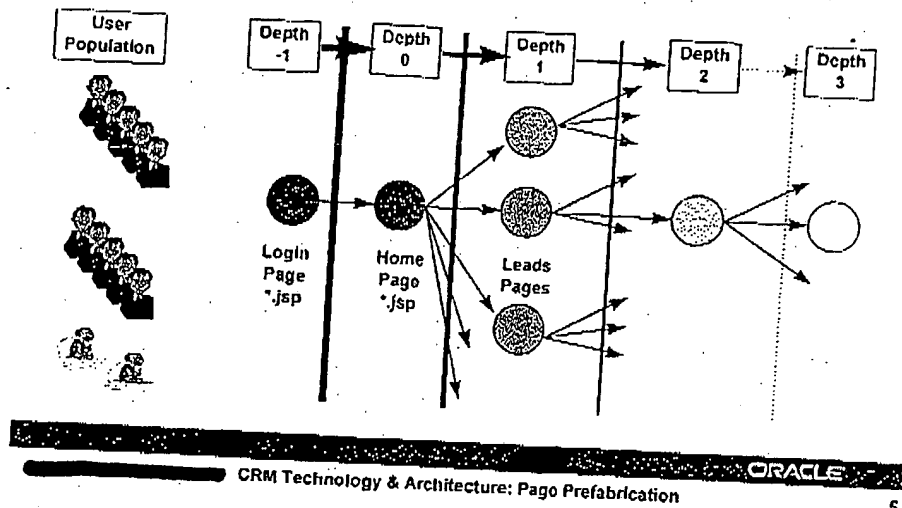
- Total JSP pages: 75
 - read-only pages: 30
- For a sales force of 100:
 - 3000 pages to prefabricate
 - generate per min or 10 mins
- MY.YAHOO.COM:
 - 6 million pages
 - every few minutes

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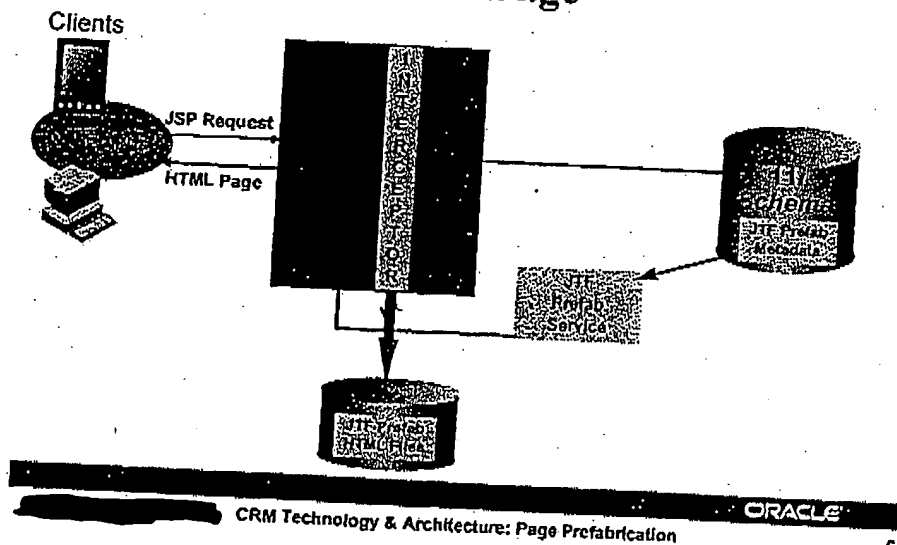
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JTF Prefab : Fabrication Rate Depth .vs. Staleness of Home Page



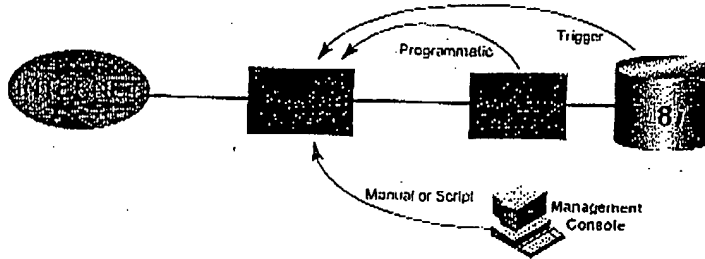
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JTF Prefab Dynamic -> Static Page



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IAS Web Cache Calypso Invalidation



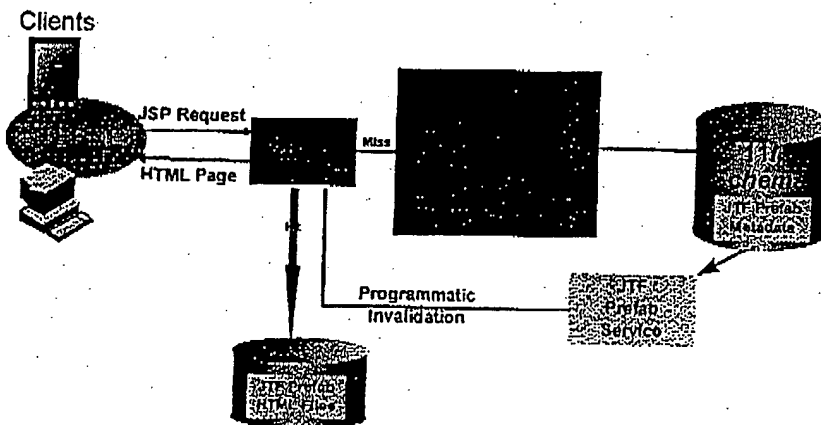
```
GET /x-oracle-cache-invalidate HTTP/1.0
X-Oracle-Cache-Invalidate-URL-Prefix: /catalog
X-Oracle-Cache-Invalidate-Level: 0
```

*Invalidate all URLs starting with /catalog (e.g., entire catalog)
with severity of 0 (i.e., never serve these pages state)*

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JTF Prefab Working with Calypso

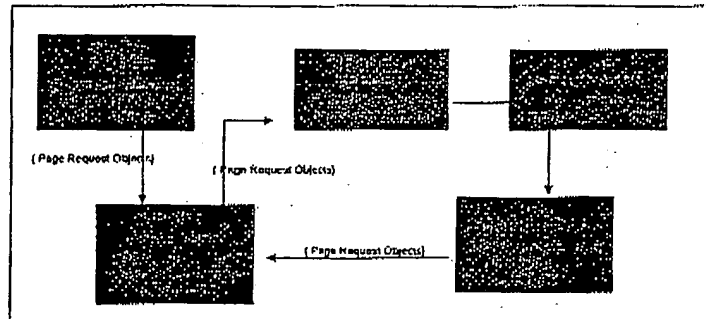


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JTF Prefab Service Application Components



JTF Prefab Service Algorithm

- For RESP ID, APP ID:
 - Get the list of FND USERS
 - Run the prefabricator at n min (10 min) intervals
- Reduce # of pages to prefabricate using:
 - user access pattern
 - usage statistics
 - etc.

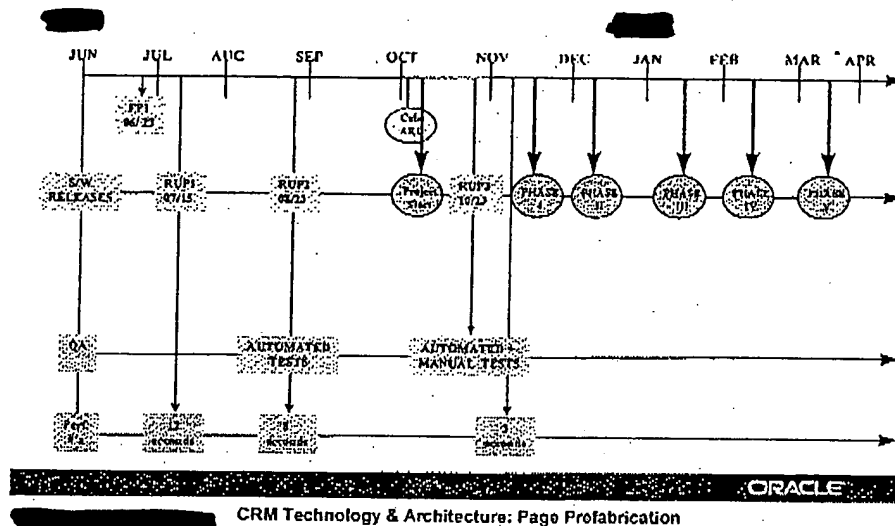
JTF Prefab Invalidation Policy

- Timer based invalidation:
 - configure intervals for page regeneration
- Login based invalidation:
 - when user logs in, re-generate user-specific pages
- Event based invalidation:
 - transactional URLs invalidate set of dependent pages

Caching .vs. Prefabrication Solutions

	<i>Caching</i>	<i>Prefabrication</i>
Problem	Repetitive fetching of same content	First time login of user access patterns
Solutions	Reactive	Pro-active
Pros	App. Neutral,	App. Specific, Utilizes excess CPU & Disk on mid-tier boxes.
Cons	Slow for first time user access.	Too many pages prefabricated

CRM JTF: Page Prefabrication Schedule

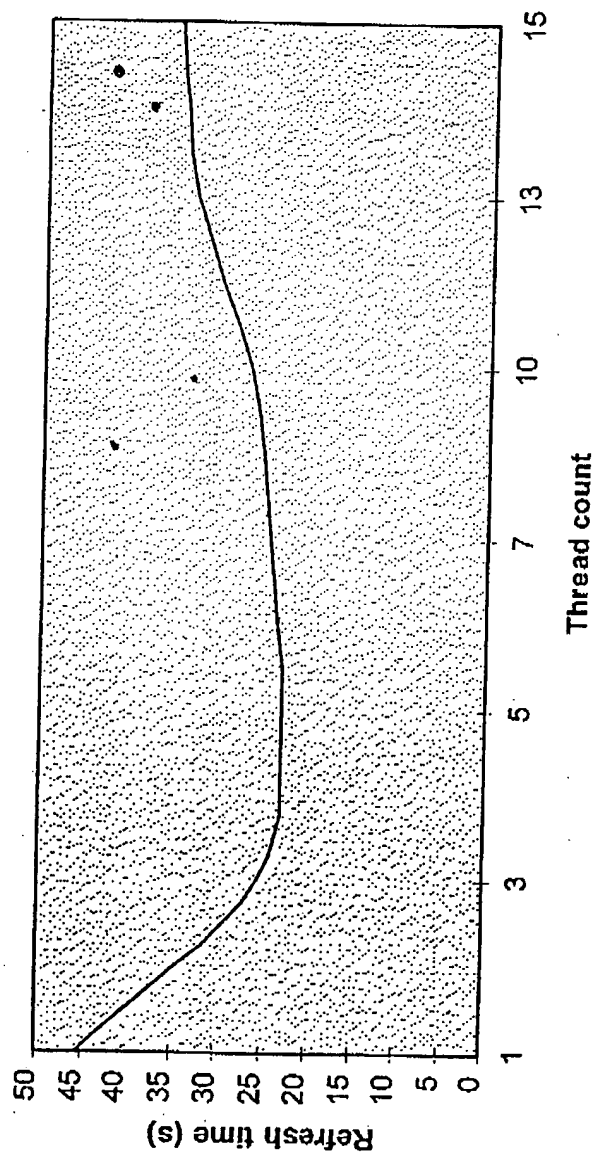


CRM JTF : Page Prefabrication Schedule

Phase	Date	Functionality
0		Session Mgmt., Intercept URI requests & serve Fab-Pages
I		Refresh Sales & iSTORE pages in 'm' minutes
II		Feedback of HOT users/ pages
III		Selectively Fabricate pages & "N" Mid-tiers support
IV		Set up and Admin Screens
V		Release
Risk		Selectivity Algorithms & Ease of set up.

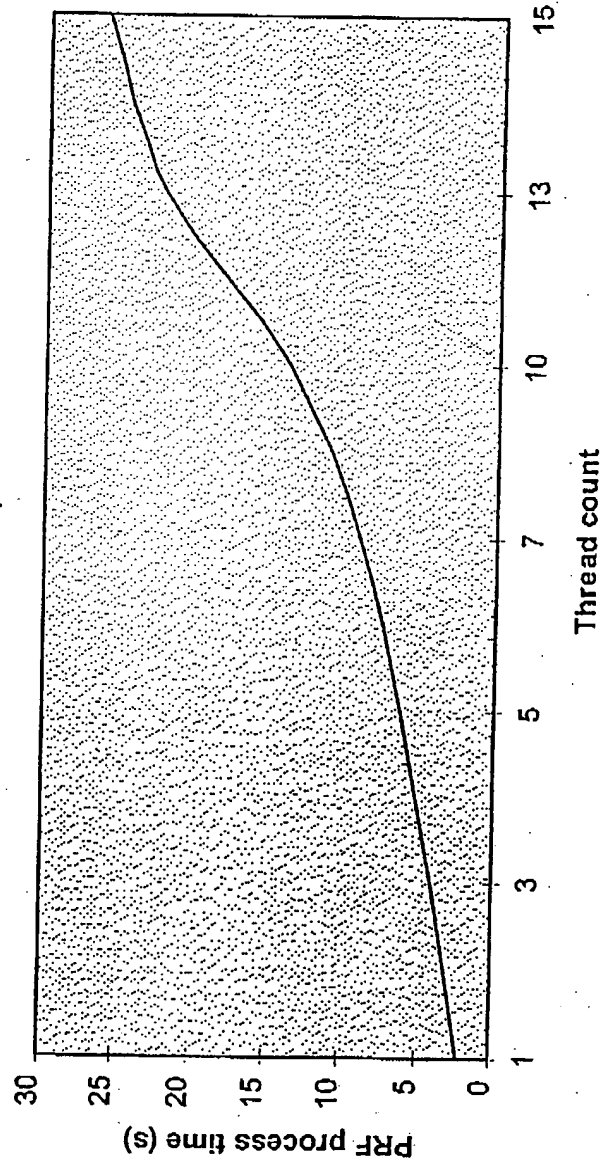
Prefabrication Statistics

Refresh time vs Thread count (20 PRBs)



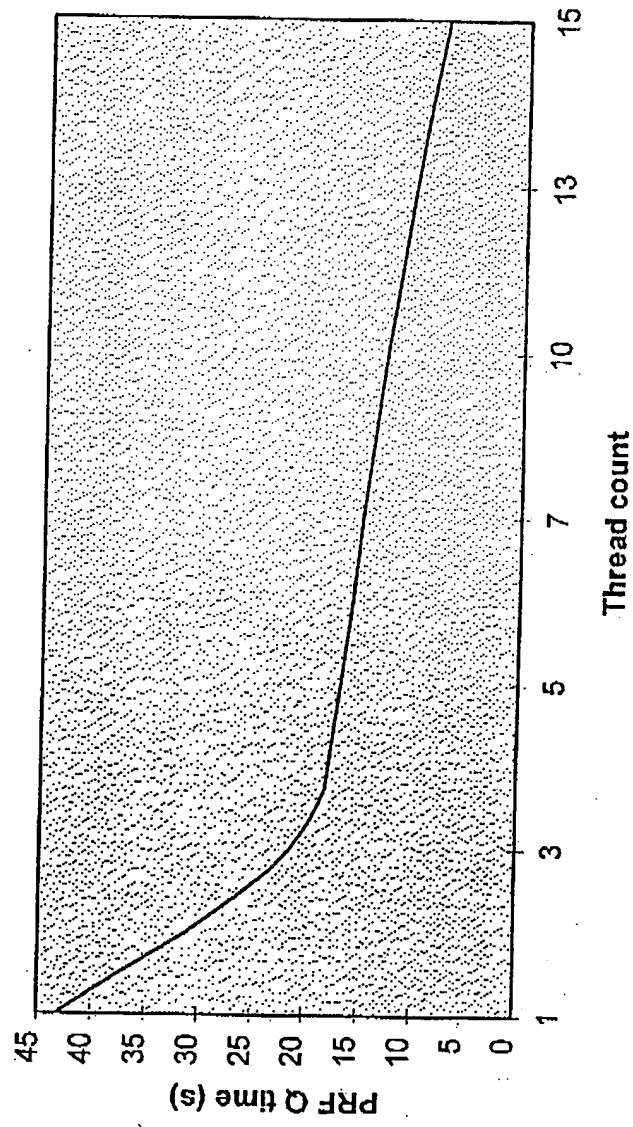
Prefabrication Statistics

PRF process time vs Thread count
(20 PRBs)

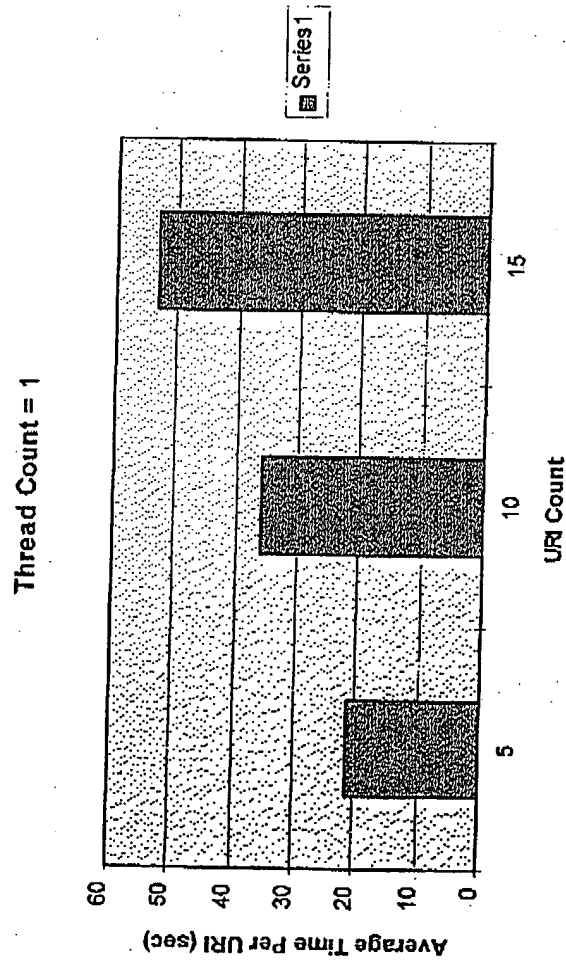


Prefabrication Statistics

PRF Q time vs Thread count (20 PRBs)



Prefabrication Statistics



Estimate for 7000 URIs = 3010sec per URI (50 min/URI)

Response Time For Home Page

Without Prefabrication: 3.76 sec

With Prefabrication: 0.53 sec

(Values measured using Load Runner)

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